

CLAIMS

What is claimed is:

1 A data collection system comprising:
2 a GSM network;
3 a user application server coupled to said GSM network;
4 a data terminal apparatus including a communications
5 bridge, a first interface, and a wireless radio,
6 said wireless radio configured to connect to said
7 GSM network; and
8 a user equipment coupled to said data terminal
9 apparatus through said first interface, said user
10 equipment configured to collect and send data
11 through said first interface as if placing a
12 circuit switched call link; wherein
13 said communications bridge is configured to simulate
14 said circuit switched call link to said user
15 equipment and to communicate said data over said
16 GSM network through said wireless radio using a
17 non-circuit switched call link, and GSM network
18 is configured to route said data to said user
19 application server for processing.

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1 2. The data collection system of claim 1, wherein said
2 non-circuit switched call link is made via one or more
3 short message service messages.

1 3. The data collection system of claim 1, wherein said
2 non-circuit switched call link is made via one or more
3 general packet radio service messages.

1 4. The data collection system of claim 1, wherein said
2 communications bridge comprises application layer object
3 code built over a GSM protocol stack associated with said
4 wireless radio, said application layer object code
5 configured to handle incoming AT commands from said user
6 equipment and handle said simulation of said circuit
7 switched call link to said user equipment.

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1 5. The data collection system of claim 1, said
2 communications bridge further comprising a preprocessor
3 unit, said preprocessor unit comprising:
4 a microcontroller;
5 a non-volatile memory coupled to said microcontroller;
6 a volatile memory coupled to said microcontroller;
7 an input output controller coupled to said
8 microcontroller, said input output controller
9 including said first interface and a second
10 interface, said wireless radio coupled to said
11 microcontroller through said second interface.

1 6. The data collection system of claim 1, wherein said
2 communications bridge is configured to packetize data
3 received from said first interface into short message
4 service format.

- 1 10. The method of claim 8, wherein said packets are
- 2 general packet radio service packets.

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1 11. A method for receiving information over a GSM network
2 comprising:

3 transmitting a packet of information over said GSM
4 network, said packet originated by a user
5 equipment;

6 receiving said packet of information at a data
7 terminal apparatus;

8 establishing a simulated circuit switched call link
9 between said data terminal apparatus and a user
10 equipment;

11 transforming said packet of information into serial
12 data information; and

13 sending said serial data information from said data
14 terminal apparatus to said user equipment over
15 said simulated circuit switched call link.

1 12. The method of claim 11, wherein said packet of
2 information is in short message service format.

1 13. The method of claim 11, wherein said packet of
2 information is in general packet radio service format.

1 14. A computer-readable medium having stored therein
2 sequences of instructions for collecting data over a GSM
3 network, said one or more sequences of instructions causing
4 one or more processing to perform the acts of:

5 receiving data at a data terminal apparatus from a
6 user equipment;
7 simulating a circuit switched call link response to
8 said user equipment;
9 packetizing said received data into packets for
10 transmission over a non-circuit switch call link
11 to said GSM network;
12 transmitting said packetized data over said GSM
13 network; and
14 routing said packetized data through said GSM network
15 to a user application server.

1 15. The computer readable medium of claim 14, wherein said
2 packets are short message service packets.

1 16. The computer readable medium of claim 14, wherein said
2 packets are general packet radio service packets.

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1 17. A computer readable medium having stored therein
2 sequences of instructions for receiving information over a
3 GSM network, said one or more sequences of instructions
4 causing one or more processors to perform the steps of:

5 transmitting a packet of information over said GSM
6 network, said packet originated by a user
7 equipment;

8 receiving said packet of information at a data
9 terminal apparatus;

10 establishing a simulated circuit switched call link
11 between said data terminal apparatus and a user
12 equipment;

13 transforming said packet of information into serial
14 data information; and

15 sending said serial data information from said data
16 terminal apparatus to said user equipment over
17 said simulated circuit switched call link.

1 18. The computer readable medium of claim 17, wherein said
2 packet of information is in short message service format.

1 19. The computer readable medium of claim 17, wherein said
2 packet of information is in general packet radio service
3 format.

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